

DYNAMICALLY PATTERNED SHIELDED HIGH-Q INDUCTOR

Abstract

High quality factor (Q) inductor elements with dynamically driven, conductive, patterned shields are disclosed wherein a conductive, patterned shield structure/layer is provided between the inductor element and the substrate. The patterned shield is dynamically driven to the same electrical potential as the inductor element, to reduce or eliminate parasitic capacitive coupling between the inductor element and the conductive substrate. The patterned shield is patterned to form a plurality of conductive segments which are insulated from each other such that eddy currents cannot flow from one conductive segment to an adjacent conductive segment, to prevent the flow of eddy currents in the patterned shield when it is dynamically driven to the same electrical potential as the inductor element. The conductive segments of the patterned shield are electrically connected together at a central connecting point to allow the patterned shield to be dynamically driven to the same electrical potential as the inductor element.